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Personal Attention**

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JUN 05 2006

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June 2, 2006

Dear Mr. Wall:

**Final Feasibility Study Report and Response to Agency Comments, West Lake Landfill
Operable Unit 2, Bridgeton, Missouri**

Attached is the above-referenced report. The report has been revised based on comments dated May 10, 2006 from USEPA and draft comments from the Missouri Department of Natural Resources (MDNR) forwarded via email from you on May 11, 2006, plus discussions with USEPA and MDNR on a teleconference held May 25, 2006. The USEPA and MDNR comments are provided verbatim below, followed by detailed responses.

EPA COMMENTS

EPA Comment No. 1 – The Demolition Landfill and the Former Active Sanitary Landfill are subject to permits with the State. The closure and post-closure requirements under the Missouri Solid Waste Rules for Sanitary Landfills and Demolition Landfills are applicable. The appropriate ARAR determination for these landfills is to describe the permit status and the applicable requirements. We will want to determine that these requirements are compatible with the remedies for the other landfills. Discussion on the permitted landfills should be taken out of the evaluation of relevant and appropriate requirements and the evaluation of alternatives. We want to include the permits, closure plans, and post-closure and monitoring plans in the Administrative Record.

Response: The Feasibility Study Report has been revised to remove the Former Active Sanitary Landfill and closed Demolition Landfill from various Sections, including the ARARs section and the evaluation of alternatives Section. The Feasibility Study Report generally describes the history and current permit status of the Former Active Sanitary Landfill and the Closed Demolition Landfill and notes that they are subject to permitted closure/post-closure requirements with the State.

EPA Comment No. 2. Section 2.0 ARARs – The Inactive Sanitary Landfill should be the focus the relevant and appropriate determinations. Because it is sufficiently similar to a sanitary landfill, the principal relevant and appropriate requirements for the Inactive Sanitary Landfill will come from the Missouri Solid Waste Rules for Sanitary Landfills. The discussion should reflect this. Most of the closure, post-closure and monitoring requirements are relevant and appropriate. The determination that leachate collection requirements are not appropriate to this case should be made on a technical basis.

Response: The Feasibility Study Report has been revised accordingly.

EPA Comment No. 3. Section 2.0 ARARs – Extraneous arguments should be removed. For example, whether or not existing conditions already meet certain requirements is not relevant to the ARAR determination. If existing conditions already meet certain requirements, it would be appropriate to describe that as part of the description of the remedial alternative.

Response: The Feasibility Study Report has been revised accordingly.

EPA Comment No. 4. Sections 4.0 and 5.0, Development of Alternatives – In its current form, the three action alternatives are essentially the same alternative (capping), distinguished by different design requirements. This approach conflicts with the existing and appropriate ARAR analysis, and, in any event, only one of the alternatives meets ARARs. It also is not consistent with the typical FS approach, which is to develop basic remedial alternatives and draw major distinctions. The Presumptive Remedy approach, intended to streamline the typical FS approach, assigns containment as the preferred alternative. The specific cap requirements should be assigned through ARAR determination. Therefore, No action and Containment (w/ hot spot analysis) are the only alternatives in this case.

Response: The Feasibility Study Report has been revised to assign specific cap requirements through ARAR determination. The Feasibility Study Report provides two alternatives, No Action and Containment. The Hot Spot analysis presented in the draft Feasibility Study Report has been retained.

DRAFT MDNR COMMENTS

MDNR General comments

MDNR General Comment No. 1. Document Structure – The current document structure makes certain sections difficult to follow and consequently difficult to read and review. As the remedial alternatives will mostly be targeted towards the inactive site, the department suggests that the discussion on the demolition landfill and the formerly active landfill site be separated from the inactive site. This change will be particularly helpful to the readability of the ARAR analysis section. The revised section containing the demolition and former active site would include, but not limited to, a discussion on the following:

- a) Physical condition of the sites
- b) The unique characteristics associated with the former active site (that is the gas and leachate generation issues, close proximity to industrial development, etc),
- c) A statement describing the current status of compliance with respect to its Missouri State permit, with a brief discussion of deficiencies, if any, that may exist and the corrective action associated with them.
- d) ARARs associated with the sites
- e) Discussion of control technologies implemented at the site (gas collection system, leachate collection system, leachate and gas monitoring, etc.)

Response: MDNR General Comment No. 1 is similar to EPA Comment No. 1, and the response is similar. The Feasibility Study Report has been revised to remove the Former Active Sanitary Landfill and closed Demolition Landfill from various Sections, including the ARARs section and the evaluation of alternatives Section. The Feasibility Study Report generally describes the history

and current permit status of these two areas, and notes that they are subject to closure/post-closure requirements with the State. These revisions to the document structure are intended to improve the document's flow and to facilitate review.

MDNR General Comment No. 2. Applicable or Relevant and Appropriate Requirements (ARARs) – The ARAR section in the document falls short of the state's expectations for this Feasibility Study. The ARAR section is confusing as it jumps back and forth from the inactive site to the demolition site to the formerly active site. In some places it is too wordy as it goes into great detail to explain why a regulation is not an ARAR. The ARAR section also completely overlooks air pollution regulations and their application for OU-2. The department disagrees with the conclusion of the analysis of the relevant and appropriate nature of Missouri Subtitle D regulations. We are disappointed that much of this section of document is spent on a long drawn-out discussion about why Subtitle D requirements are not an ARAR for OU-2, when a more meaningful discussion was expected about how the Missouri solid waste regulations relate to the project and how the relevant sections could be applied. It has been the department's intent, which has been expressed in previous correspondence over the years, that Missouri Subtitle D requirements will be the governing requirements used to create the proposed remedies for OU-2. In conclusion, the department recommends a general overhaul of most of the ARAR section, removing the long extraneous discussion on how a particular regulation doesn't qualify as a ARAR, and instead concentrate the discussion on how regulations can be applied to the project.

The department has detailed below additional regulations, with the exception of air regulations which are discussed separately under Air Quality, that the Department believes should be included as ARARs for OU-2.

- a) 10 CSR 80-2.030 *Post Closure Care and Corrective Action Plans*. As the OU-2 remedy will include an operation and maintenance component, this Missouri Solid Waste Regulation sets forth standards for the development of such plans.
- b) 19 CSR 20-10.040 *Protection Against Ionizing Radiation*. As OU-2 is part of a larger landfill site in which portions contain radioactive waste and therefore may have the potential for exposure, all regulations that pertain to the protection of onsite workers and personnel and to the general public outside the controlled area will apply.
- c) 10 CSR 60-4 *Missouri Drinking Water Standards and MCL's*. Although the Federal Safe Drinking Water Act is listed as an ARAR, the State of Missouri's promulgated drinking water regulations should also be listed, as some requirements may be more restrictive than the Federal regulations.
- d) Noise Control Act
- e) 10 CSR 23-4 *Monitoring Well Construction Code*. As OU-2 contains existing groundwater monitoring wells, and as new or replacement wells may be needed, and as existing wells may need removed, the State's regulations on monitoring wells will apply.
- f) 10 CSR 20-6.200 *Stormwater Discharges and Management*. As stormwater from the site will be generated and managed, the States regulations regarding stormwater management and the use of "best management practices" will apply. As a notice, prior to construction, a land disturbance permit will be required at the site, and the contractor will be required to submit a stormwater ARAR application for this to be issued.

g) 10 CSR 20-7.031 *Water Quality Standard*

Response: The ARAR section has been streamlined in response to the USEPA and MDNR request to reduce discussion of the Former Active Sanitary Landfill and the closed Demolition Landfill and focusing the Feasibility Study Report on possible remedial actions for the Inactive Landfill. The ARARs section includes discussions regarding the potential application of various regulations, including Missouri Subtitle D regulations, to the project.

The ARARs section also has been revised to include, as appropriate, the majority of the specific regulations cited in MDNR's General Comment No. 2. MDNR agreed on the May 25, 2006 teleconference that the federal Noise Control Act is not an ARAR for the Inactive Landfill.

MDNR General Comment No. 3. Remedial Alternatives – The department recommends removing in its entirety Alternative 2, and Alternative 4 from the Feasibility Study. Doing so will make the document less complex, easier to read and allow the document to focus on the presumed remedy, Alternative 3. In addition to that, Alternative 2 utilizes the Federal Subtitle D regulations as its basis and although not identical to Missouri Subtitle D regulations they both describe the same technology with regard to the closure of landfills, with the state requirements being more restrictive in certain areas. With the Federal and State regulations being so similar, it seems redundant to propose alternatives for both. Furthermore, the fact that the landfill is located in the State of Missouri should by design preclude the use of the less restrictive federal regulations. This recommendation is reinforced by the Feasibility Study itself in the last paragraph of Section 2.1.3.2 RCRA Subtitle D on page 21. Alternative 4, which will utilize a geosynthetic liner in place of the clay cover, has not been previously discussed in past documents or correspondence, and may create more questions than answers. For example, there is no discussion on how a liner on the inactive site would be compatible with the entire OU-1 and OU-2 site. The OU-1 site, demolition landfill site, and the formally active site either do not have a liner or do not have a liner proposed for closure, and therefore seems out of place for the inactive site.

Response: Consistent with MDNR General Comment No. 3 and USEPA Comment No. 4, the Feasibility Study Report has been revised to include two alternatives – (1) a No Action alternative and (2) a capping option consistent with Missouri Subtitle D regulations and including environmental monitoring and institutional controls.

MDNR General Comment No. 4. Landfill Gas – The department has previously stated that the landfill gas sampling techniques as described in the OU-2 Remedial Investigation and Feasibility Study are not an acceptable method and did not adequately characterize and delineate the presence and the extent of landfill gas at the site. However, the document attempts to confirm otherwise and seems to minimize the threat and potential exposure of landfill gas at this site. Given the unique conditions of portions of OU-2 and the enormous quantities of gas generated from it, the attempt to prove that landfill gas and its migration is not a concern on OU-2 is not appropriate. The department would rather see a discussion on the overall landfill gas issues at the site, how they may relate to each individual OU-2 site and explain that current gas analysis of the inactive site is not adequate to fully determine the nature and extent of landfill gas. This discussion should go on to explain that as a result of this, additional landfill gas monitoring and analysis using current state accepted techniques will be completed as part of the remedy.

The Department's Solid Waste Program provided the following comment on this issue: The Solid Waste Management Program of the Missouri Department of Natural Resources has performed studies on gas sampling that were funded by the Environmental Protection Agency. Copies of these studies are available upon request. These studies show the procedures for getting a more accurate soil gas sample. The techniques for type of sample and procedure for taking a sample described in the feasibility study were shown to be misleading, typically providing false negative errors. Landfill gases may have been present but could not be detected. To their credit, the authors suggested that landfill gas control should be provided in the alternatives considered.

Response: The landfill gas sampling techniques utilized as part of the OU-2 Remedial Investigation and as generally described in the Feasibility Study Report were originally presented in the OU-2 RI/FS Work Plan and subsequently discussed in the Remedial Investigation Report, and were reviewed and approved by the USEPA and MDNR. The results of the landfill gas sampling efforts on and near the Inactive Landfill area are consistent with health and safety air monitoring conducted during invasive drilling activities into the Inactive Landfill waste mass during leachate riser installations. The results of this sampling indicated no significant landfill gas emissions even during the invasive activities which would be expected to yield the most conservatively high emission concentrations and rates.

By revising the format of the Feasibility Study Report pursuant to MDNR and USEPA suggestions as described above, the landfill gas discussion is expected to be more streamlined.

The revised Feasibility Study Report also continues to recommend the installation of a formal landfill gas monitoring system at the Inactive Landfill. This installation will be consistent with current regulations.

Please forward a copy of the USEPA studies referenced in MDNR General Comment No. 4.

MDNR General Comment No. 5. Air Quality Issues – As discussed above in the General Comment 1, air regulations appear to be overlooked with no real discussion on the need for compliance with the Clean Air Act, and Missouri Air Quality Standards. This is especially important given the attainment status of the St. Louis metro area.

This ARAR section should discuss the National Ambient Air Quality Standards contained in the Clean Air Act and subsequent federal and state regulations. It should specifically mention the fact that Bridgeton is located in St. Louis County, which has been designated a non-attainment area for ozone and particulate matter less than 2.5 microns (PM_{2.5}). This is important because releases of volatile organic compounds (VOCs) or burning/flaring of landfill off-gases are detrimental to air quality in the St. Louis non-attainment areas for ozone and PM_{2.5}.

Since this facility is a major source of air emissions (plant number 189-0312) in the St. Louis non-attainment area. We would encourage any means to reduce volatile organic compound (VOC), particulate matter (PM_{10/2.5}), and oxides of nitrogen (NO_x) emissions that would be part of this cleanup. Also, there appears to be a need to determine the extent of any Hazardous Air Pollutants (HAPs) for the cleanup and identify any further action necessary based on Missouri air quality regulation.

The department has listed below air regulations that would most likely apply to the site:

1. 10 CSR 10-5.160 *Control of Odors in the Ambient Air in the St. Louis Metro Area*

2. 10 CSR 10.5.490 *Municipal Solid Waste Landfills in the St. Louis Metro Area*
3. 10 CSR 10.6.060 Appendix J *Air Quality Analysis for Hazardous Air Pollutants*
4. 10 CSR 10-6.170 *Restriction of Particulate Matter to the Ambient Air beyond the Premises of Origin*
5. 10 CSR 10-6.220 *Restriction of Emission of Visible Air Contaminates*
6. 10 CSR 10-6.310 *Restriction of Emissions from Municipal Solid Waste Landfills*
7. 40 CFR 61 (NESHAP) *National Emissions Standards for Hazardous Air Pollutants*

Response: The ARARs section now includes a discussion of air regulations which are appropriate for a containment remedy at the Inactive Landfill. The majority of these regulations are only applicable to remediation and construction activities, and can and will be addressed in the various health and safety and construction management plans for the remedial activities. Also, during the May 25, 2006 teleconference MDNR agreed that 10 CSR 10-6.310 does not apply to landfills located in St. Louis County.

MDNR Specific Comments

MDNR Specific Comment No. 1. Section 1.2.3 *Nature and Extent of Contamination*, page 5-6 –

The OU-2 site adjoins OU-1 and contains radioactive materials dispersed throughout the OU-1 site. This radioactive material decays to form radon gas that has the potential to migrate through the landfill, potentially along with other landfill gasses. Since there appears to be no current data on whether radon gas is mixed with other landfill gases in OU-2, discussion on how radon gas will be managed if detected in the gas on either the inactive site or detected in the active gas collection system at the formerly active landfill should be included.

Response: As stated in the Remedial Investigation Report approved by the USEPA and MDNR, no source of radioactivity in OU-2 has been identified or is suspected. It is the responsibility of Operable Unit 1 to control and monitor for potential radon migration. If radon were to migrate from OU-1 into OU-2, it is anticipated that OU-1 would be required to evaluate the extent of such impacts and to enhance the OU-1 environmental control systems. To the extent remediation or construction activities at the Inactive Landfill could expose workers or others to radon gas migrating from OU-1, the health and safety plans for OU-2 will address this risk.

MDNR Specific Comment No. 2. Section 1.2.3 *Nature and Extent of Contamination*, page 6 –

The last sentence in this section states that impacted groundwater on site is not measurably affecting downgradient surface waters and sediments. In what way is this groundwater plume effecting groundwater outside the boundary of the landfill, and does this plume represent a concern for soil vapor intrusion (VOC's and hydrocarbons) offsite into adjacent structures?

Response: As clarified during the May 26, 2006 teleconference, there is no identified plume in groundwater at OU-2. Rather, there are isolated, sporadic detections of compounds, generally at low levels, which if sourced at the Inactive Landfill and not the LUST site at the asphalt plant, will be addressed by the presumptive containment remedy proposed for the Inactive Landfill.

There are no data to suggest that soil vapor intrusion is a significant issue associated with the Inactive Landfill. To the extent that hydrocarbons are or may be a concern, this issue should be addressed through the on-going LUST project at the asphalt plant operations. The LUST project is beyond the scope of the OU-2 CERCLA remedial action.

MDNR Specific Comment No. 3. Section 1.3 *Baseline Risk Assessment*, page 6 - The EPA's presumptive remedy streamlined approach to evaluating risks at Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) municipal landfill sites differs from the typical baseline risk assessment in that quantitative calculations of intakes and risks are not conducted. In the EPA reference fact sheet, Directive No. 9355.0-49FS, for developing presumptive remedies for municipal landfills, Section 3.0 states, "it may be appropriate to consider future residential use for groundwater and other exposure pathways when assessing risk from areas of contaminant migration." Due to the fact that the site is almost completely surrounded by commercial/industrial properties, in addition to discussing the direct ingestion of groundwater exposure pathway, because there is on-site groundwater with petroleum products and other volatile organic compounds above the maximum contaminant levels, the potential worker risks due to vapor intrusion to future or existing commercial buildings should be discussed.

Response: Section 1.3 of the report presents a summary of statements contained in the Baseline Risk Assessment Report previously approved by USEPA and MDNR. It is assumed that the MDNR comment is not intended to suggest re-opening the Baseline Risk Assessment to incorporate additional evaluations. As clarified during the May 25, 2006 teleconference, OU-2 has existing institutional controls that would preclude the construction of buildings on the Inactive Landfill area. There are no existing buildings on the Inactive Landfill. Accordingly, the potential for vapor intrusion to future or existing buildings is minimal to non-existent.

MDNR Specific Comment No. 4. Section 1.3 *Baseline Risk Assessment*, page 7-8 - This section states that the parameters detected in the landfill gases are unlikely to pose an exposure concern at the detected levels. Given that there is no evidence to exclude radon gas as a potential hazardous gas in OU-2, and that an analysis of radon gas has not been completed for OU-2, how can this statement be made?

Response: Section 1.3 of the report presents a summary of statements contained in the Baseline Risk Assessment Report previously approved by USEPA and MDNR. No source of radioactivity in OU-2 has been identified or is suspected. Consequently, there is no evidence to suspect the presence of radon at hazardous concentrations in OU-2 landfill gas. It is the responsibility of Operable Unit 1 to control and monitor for potential radon migration. If radon were to migrate from OU-1 into OU-2, it is anticipated that OU-1 would be required to evaluate the extent of such impacts and to enhance the OU-1 environmental control systems. To the extent remediation or construction activities at the Inactive Landfill could expose workers or others to radon gas migrating from OU-1, the health and safety plans for OU-2 will address this risk.

MDNR Specific Comment No. 5. Section 2.1.1 *Potential Chemical-Specific ARARs or TBCs*, bullets, page 12 - The Missouri Risk-Based Corrective Action Process (MRBCA) for Petroleum Storage Tanks is not included in the bullets in Section 2.1.1. MRBCA is discussed in Section 2.1.1.5 MRBCA Process for Petroleum Storage Tanks (February 2004) page 16. MRBCA should be included in the list of Potential Chemical-Specific ARARs and TBCs in Section 2.1.1 as a suggested guidance.

Response: As discussed during the May 25, 2006 teleconference, issues associated with releases from petroleum storage tanks that would trigger MRBCA's regulatory requirements should be directed to the LUST owners at the asphalt plant. There are no petroleum storage tanks on the Inactive Landfill.

MDNR Specific Comment No. 6. Section 2.1.1 *Potential Chemical-Specific ARARs or TBCs*, page 12 – Please include 10 CSR 10-6.060 Appendix J, Air Quality Analysis for Hazardous Air Pollutants (HAP) in this section. This regulation is a construction permit regulation, but includes the following specific requirements for any emission increase of Hazardous Air Pollutants in Missouri:

- a) “The director shall maintain a table of emission threshold levels, risk assessment levels, and screening model action levels for hazardous air pollutants. Applicant will not be required to submit a hazardous air pollutant air quality analysis for applications having a maximum design capacity no more than the hazardous air pollutant emission threshold levels unless paragraph (12)(J)(2) applies.
- b) Exceptions. The director may require an air quality analysis for applications if it is likely that the construction or modification will result in the discharge of air contaminants in quantities, of characteristics and of a duration which directly and proximately cause or contribute to injury to human, plant, or animal life or the use of property or complaints filed in the vicinity of the proposed construction modification warrant an air quality analysis.”

This regulation would require an air quality analysis of any HAP that exceeds these threshold values. Since the draft report does not contain any specific emission HAPs it is impossible to determine if these levels are exceeded. It is also important to note that these threshold values often contain concentration levels for the 1-hour, 8-hour, or 24-hour timeframes as well as long-term exposures.

Response: There is no evidence of hazardous waste disposal in the Inactive Landfill, and no reason to suspect that remediation or construction activities at the Inactive Landfill would release hazardous air pollutants into ambient air. If actual remediation activities suggest the presence of hazardous air pollutants at the Inactive Landfill and the possibility of releases of these pollutants, the health and safety plan will protect on-site workers and other and the regulatory requirements of 10 CSR 10-6.060 will be triggered..

MDNR Specific Comment No. 7. Section 2.1.1.2 *PRG's*, page 13 – This section discusses PRG's for landfill gasses and seems to only consider on-site exposures. In the case that gases migrate offsite, shouldn't offsite exposures be considered here?

Response: Given suggestions from USEPA and MDNR to streamline the FS report and focus on the Inactive Landfill, the report no longer contains a discussion of PRGs. Landfill gasses are adequately covered by the Missouri Subtitle D regulations, the air quality regulations, the construction-related regulations, and the commitment to address any landfill gas emissions as part of the presumptive remedy.

MDNR Specific Comment No. 8. Section 2.1.3.3 *Missouri Solid Waste Rules for Sanitary Landfills and Demolition Landfills, Air Quality / Gas Control Sections*, pages 24-25 – These sections should re-emphasize the need for compliance with Missouri air quality regulations and the Clean Air Act along with an understanding of the current attainment status of the St. Louis area.

Response: The facility acknowledges the need for compliance with Missouri air quality regulations and the Clean Air Act, and further acknowledges the current attainment status of the St. Louis metropolitan area. The appropriate air quality regulations pertinent to a capping option on the Inactive Landfill will be followed during remediation and construction activities.

MDNR Specific Comment No. 9. Section 2.1.1.3 CWA, page 14 – The correct phrase is “National Pollutant (not Pollution) Discharge Elimination System”.

Response: The text has been revised to eliminate this typographical error.

MDNR Specific Comment No. 10. Section 2.1.3.3 Missouri Solid Waste Rules for Sanitary Landfills and Demolition Landfills, Air Quality / Gas Control Sections, page 29 – The last sentence on this page states, “the purposes underlying the regulatory requirements are satisfied, or can be satisfied, at the OU-2 without imposing landfill closure and cover standards on the West Lake remedy as ARAR’s.” The argument made here, that because the regulatory requirements can be met those requirements should not be ARARS, is not justification to exclude the very regulations that are being followed. Please remove this statement from the documents.

Response: The ARARs section has been streamlined in response to USEPA Comments No. 1 and No. 4, and MDNR General Comments No. 1 and No. 2. The revised ARARs discussions focus on the Inactive Landfill, which results in a more straightforward discussion of regulations. The identified statement no longer appears in the report.

MDNR Specific Comment No. 11. Section 3.0 Response Action Objectives, page 30 – We suggest that because no information is available on potential migration of radon gas from OU-1 to OU-2, radon gas sampling be part of the future landfill gas monitoring.

Response: Radionuclide monitoring, including radon gas monitoring, will be conducted by OU-1. Control of radon gas migration, if any, away from OU-1 will be the responsibility of OU-1. To the extent ionizing radiation from OU-1 creates air issues for workers or others at OU-2 during the remediation or construction activities, the health and safety plan will address such risks and applicable regulations will be followed.

MDNR Specific Comment No. 12. Section 4.0 Response Action Objectives/Presumptive Remedy, Hot Spots, third paragraph, page 46 – There is a probable typographical error in the sentence beginning with “The Federal Subtitle D”. The word requireme should probably be changed to requires.

Response: The suggested revision has been made.

MDNR Specific Comment No. 13. Section 5.2 Alternative 2 – Subtitle D-prescribed Cover with Long-Term Monitoring and Institutional Controls, third paragraph, page 50 – The Department’s Geological Survey Program did not expect that radon gas would be a potential concern at the Inactive Landfill. Radioactive waste was deposited in other areas of the site and it is unlikely that there are other natural sources for radon underlying the landfill. Additional information should be provided to explain why radon gas may accumulate in future structures built on or near the Inactive Landfill.

Response: The text of the draft Feasibility Study Report contained a typographical error in its reference to radon. The radon reference has been removed.

MDNR Specific Comment No. 14. Section 7.7 Cost, second paragraph, page 66 – The costs and assumptions leading to those costs are not detailed in this report. The following was provided:

“Cost estimates are provided in 2006 dollars and include a 25% costing and scoping contingency. For capital cost items, percentage costs for contractor markup, mobilization/demobilization, and insurance

(10%); engineering, permitting, and construction management (20%); and regulatory oversight (2.5%) are added to the estimated construction cost subtotal. Present worth cost estimates assume a 7% discount rate in accordance with the most recent EPA guidance (EPA, 2000)."

The Missouri Office of Administration Division for Facility Management, Design, and Construction schedule of costs for regulatory oversight should be reconsidered for the small projects that will be needed over the 30-year period. A current 2006 project, Y060101, estimated at \$64,000 is costing \$8900 in regulatory oversight, about 14%. That cost does not include the costs of engineering, permitting and construction management. That percentage exceeds the 2.5% proposed for small projects in the Feasibility Study. The smaller percentage would be appropriate if the repairs were done in one large project. Maintenance projects more often are numerous, small projects and are charged a higher percentage.

Response: As clarified during the May 25, 2006 teleconference, the goal of the Feasibility Study is to utilize a consistent set of assumptions to provide relative costs for each alternative. The percentage estimate for regulatory oversight in the OU-2 FS is consistent with the percentage estimate in the OU-1 FS, and provides a consistent platform for cost comparisons between the two Operable Units. The facility recognizes that actual oversight costs may vary and must be paid, subject to standard accounting and legal audits.

MDNR Specific Comment No. 15. Table 2-1: Preliminary Identification of Potential Chemical-Specific ARARs and TBC Criteria – is incorrect in referencing the Cleanup Levels for Missouri (CALM) document as a potentially applicable requirement for petroleum hydrocarbons (TPH) in groundwater, but rather the guidance for the *Missouri Risk-Based Corrective Action for Petroleum Tanks* should be referenced.

Response: Based on focusing the FS Report on the Inactive Landfill as recommended by USEPA and MDNR the document does not reference either CALM or the *Missouri Risk-Based Corrective Action for Petroleum Tanks*. Any leaking petroleum storage tank impacts from the LUST site should be addressed by the LUST owner.

MDNR Specific Comment No. 16. Table 2-3: Preliminary Identification of Potential Action Specific ARARs and TBC Criteria – A potential action specific ARAR not included in Table 2-3 is 10 CSR 23-4.010, which is a state rule which regulates the construction, registration and abandonment of monitoring wells. It is recommended that this potential action specific ARAR be added to Table 2-3.

Response: The report has been revised accordingly.

MDNR Specific Comment No. 17. Appendix C Cost Estimate Details. Observations of landfill covers with less than 24 inches of soil included thin to no vegetation particularly when the vegetation was placed under the stress of dry, hot summers. These observations were made on landfills that were generating lots of gas and that had not been closed for more than five years. Soils were rocky showing little of the fertility of topsoil. The use of the Alternative 2 cover, should include a higher maintenance cost to reseed grasses as necessary, to prevent erosion of the cover.

Response: The former Alternative 2, construction of a federal Subtitle D-compliance cover, is no longer included in the report. The current cover alternative assumes a minimum of 24 inches of soil. The Inactive Landfill apparently generates little landfill gas, and has been closed for over 30

years. Further revision to the document should not be needed, given other changes that have been made.

I trust that these responses are sufficiently detailed and clarify the changes that have been made to the final Feasibility Study Report. If you have any questions, please contact the undersigned or the facility's Project Manager, Ms. Victoria Warren.

Sincerely,

Herst & Associates, Inc.



Ward Herst, PG
Managing Director

Cc: Shawn Muenks – MDNR
Victoria Warren – AWIN
Rick Walker - AWIN
Allen Steinkamp – AWIN
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